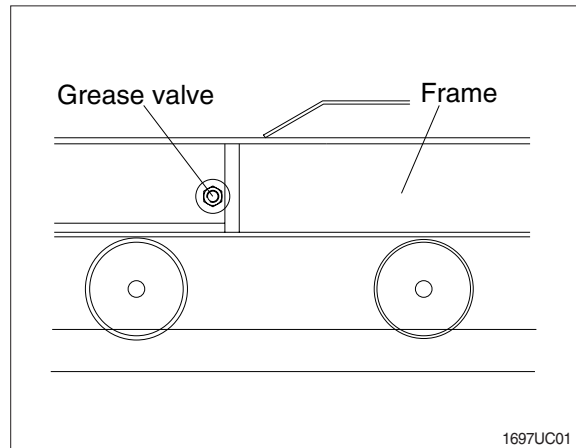


GROUP 10 UNDERCARRIAGE

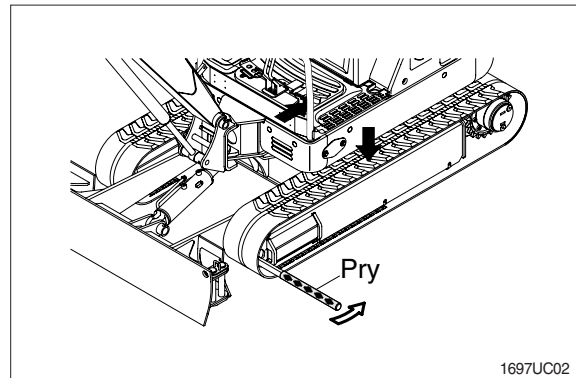
1. RUBBER TRACK

1) REMOVAL

- (1) Loosen tension of the rubber track.
 - ※ If track tension is not relieved when the grease valve is loosened, move the machine backwards and forwards.

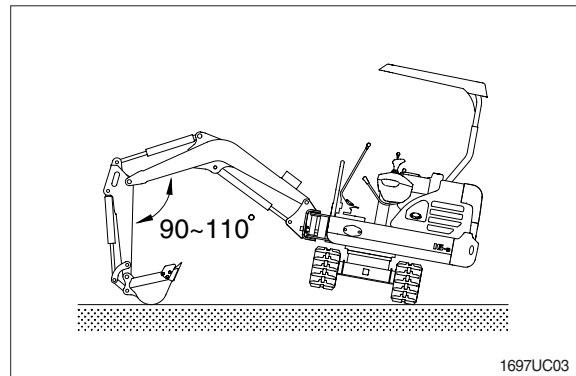


- (2) Remove the rubber track from lower frame using pry.



2) INSTALL

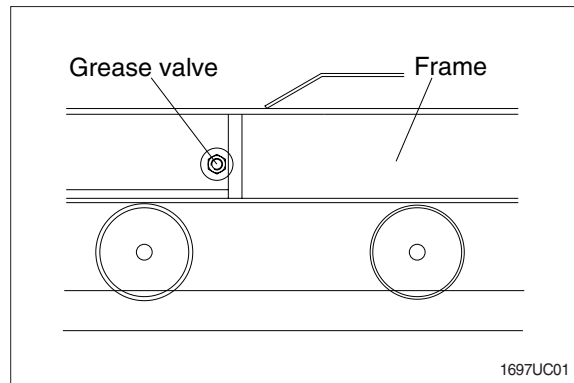
- (1) Carry out installation in the reverse order to removal.
 - ※ Adjust the tension of the rubber track.



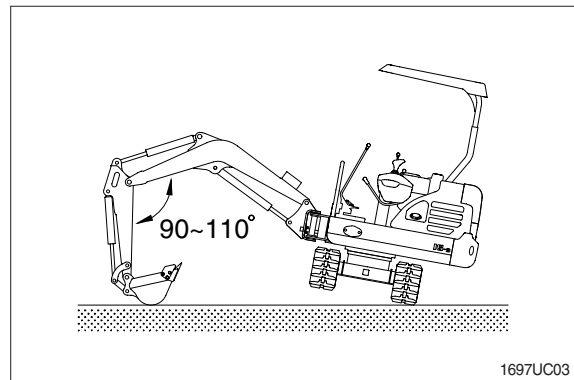
2. TRACK ROLLER

1) REMOVAL

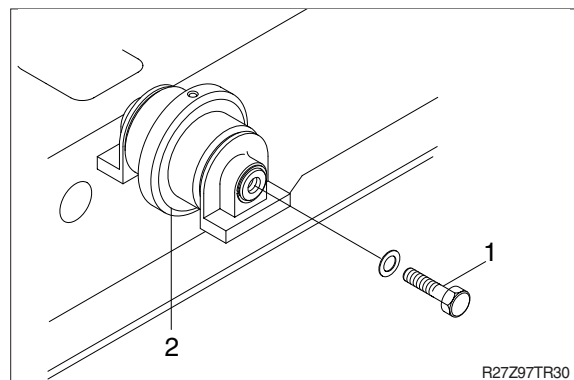
- (1) Loosen tension of the rubber track.



- (2) Using the work equipment, push up track frame on side which is to be removed.
※ After jack up the machine, set a block under the unit.



- (3) Remove the mounting bolt (1) and draw out the track roller (2).
 - Weight : 3 kg (7 lb)
 - Tightening torque : 12.3 ± 1.2 kgf · m
(89 ± 8.7 lbf · ft)



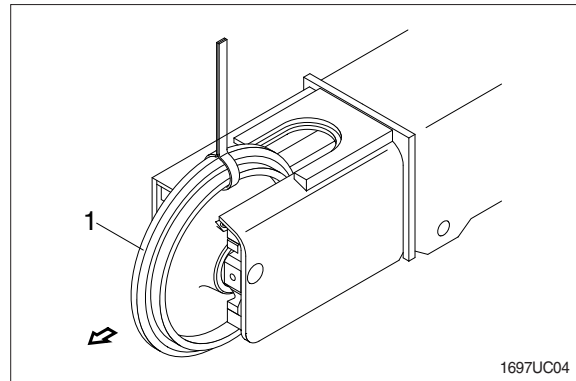
2) INSTALL

- (1) Carry out installation in the reverse order to removal.

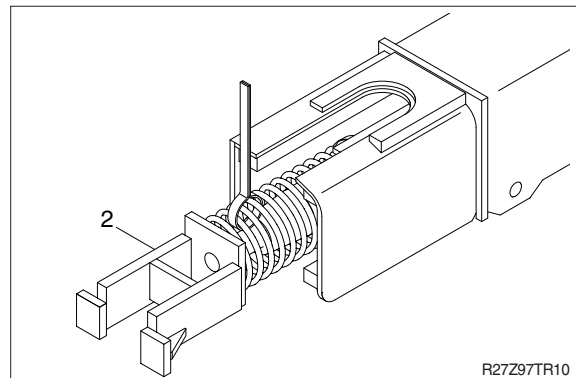
3. IDLER AND RECOIL SPRING

1) REMOVAL

- (1) Remove the track link.
For detail, see removal of track link.
- (2) Sling the idler (1) and pull out idler and recoil spring assembly from track frame, using a pry.
 - Weight : 15 kg (33 lb)

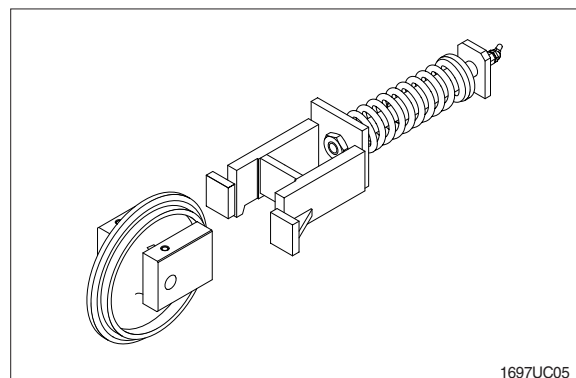


- (3) Pull out yoke and spring weld assembly from track frame, using a pry.
 - Weight : 11 kg (24 lb)



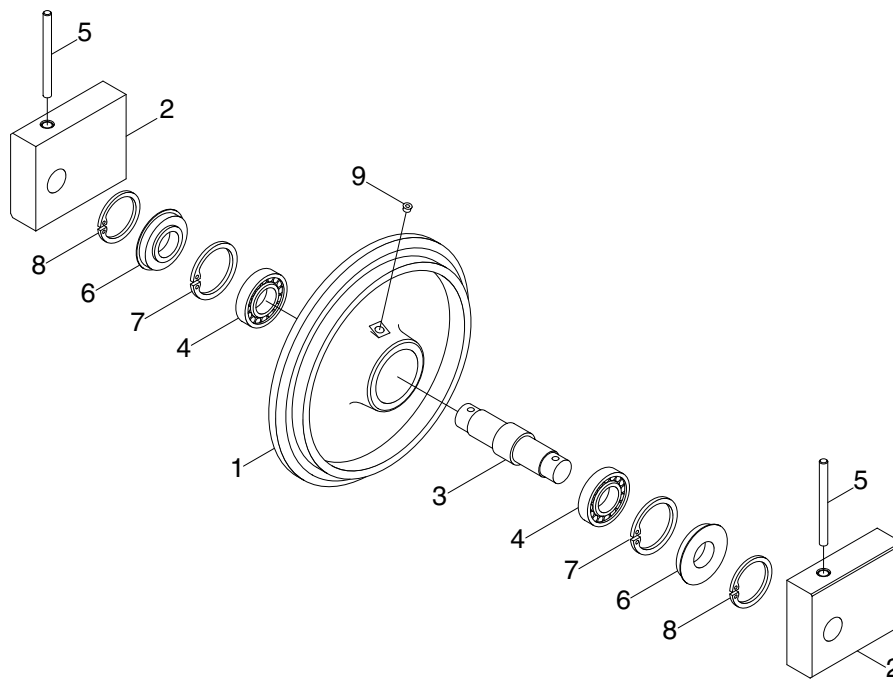
2) INSTALL

- (1) Carry out installation in the reverse order to removal.
 - ※ Make sure that the boss on the end face of the recoil cylinder rod is in the hole of the track frame.



3) DISASSEMBLY AND ASSEMBLY OF IDLER

(1) Structure

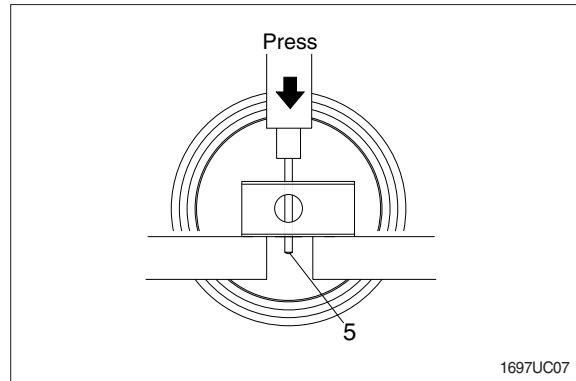


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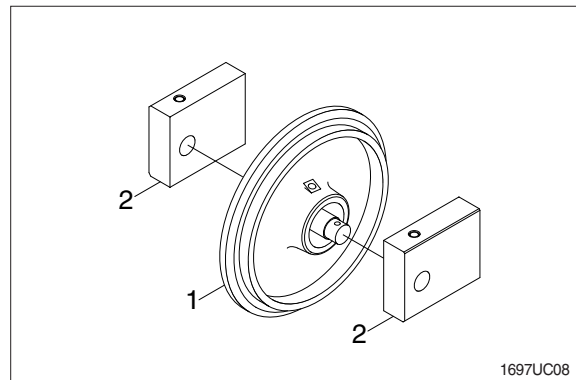
- | | | | | | |
|---|---------|---|--------------|---|-----------|
| 1 | Shell | 4 | Ball bearing | 7 | Snap ring |
| 2 | Bracket | 5 | Pin | 8 | Snap ring |
| 3 | Shaft | 6 | Oil seal | 9 | Plug |

(2) Disassembly

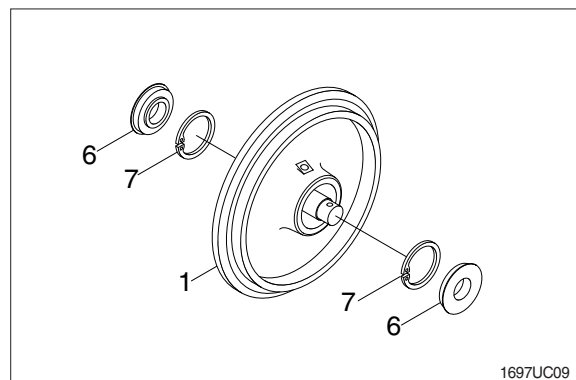
- ① Remove plug and drain oil.
- ② Draw out the spring pin (5), using a press.



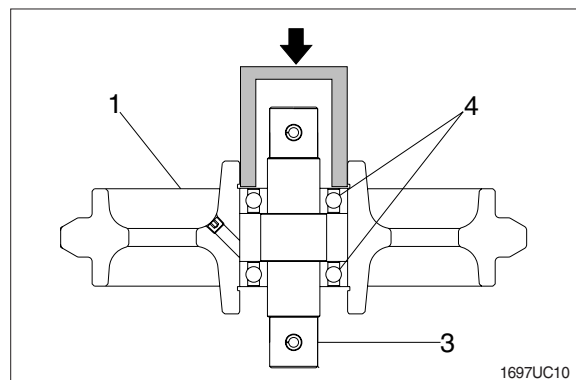
- ③ Remove brackets (2) from shaft.



- ④ Remove seal assembly (6) from shell (1) by pry.
- ※ Do not reuse seal assembly after removal.
- ⑤ Remove snap ring (7) from shell (1)

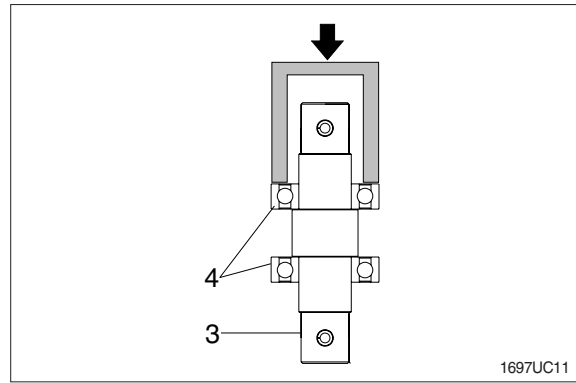


- ⑥ Draw out the ball bearing (4) with shaft (3) using press.
- ⑦ Remove the ball bearing (4) from shaft, using a special tool.
- ※ Only remove ball bearing if replacement is necessary.

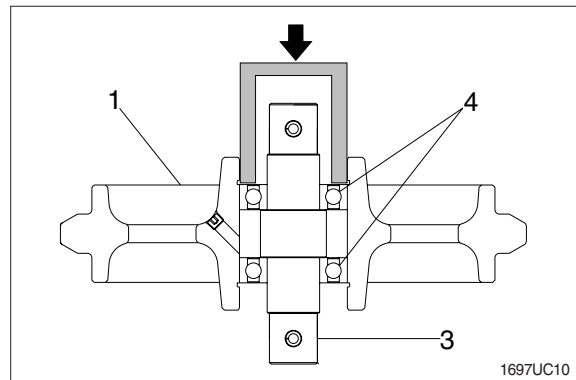


(3) Assembly

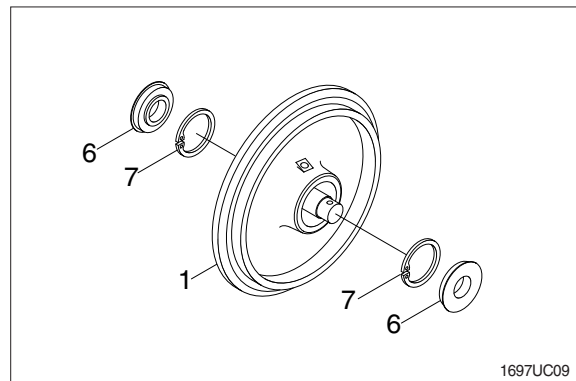
- ※ Before assembly, clean the parts.
- ※ Coat the sliding surfaces of all parts with oil.
- ① Do not press it at the normal temperature, assemble ball bearing (4) to shaft (3) by press.



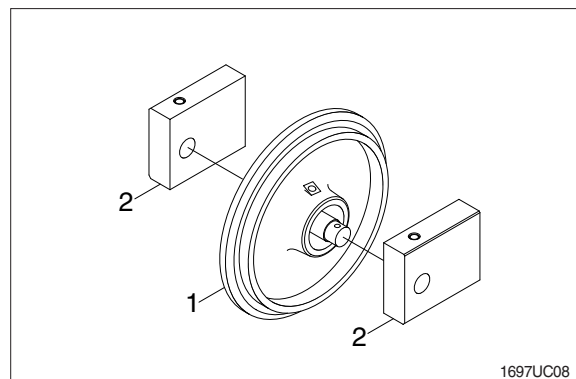
- ② Insert shaft (3) with ball bearing (4) assembly to shell (1).



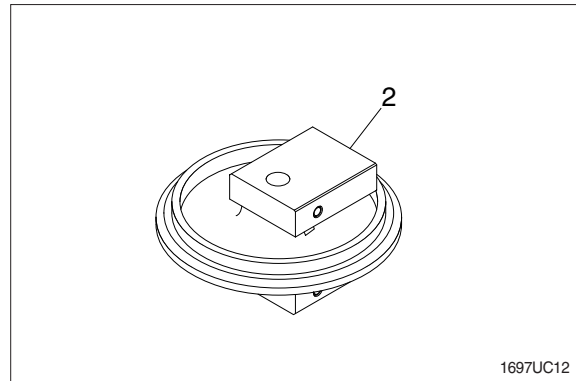
- ③ Assemble snap ring (7) and seal assembly (6).



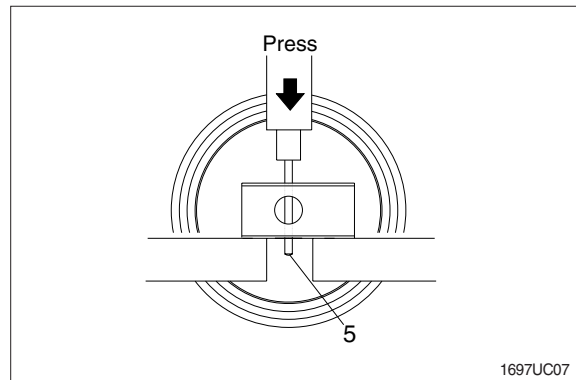
- ④ Assemble bracket (2) to shell (1).



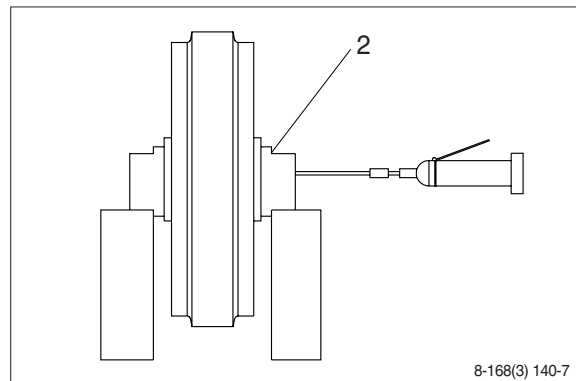
- ⑤ Install bracket (2) attached with seal (6).



- ⑥ Knock in the spring pin (5) with a hammer.

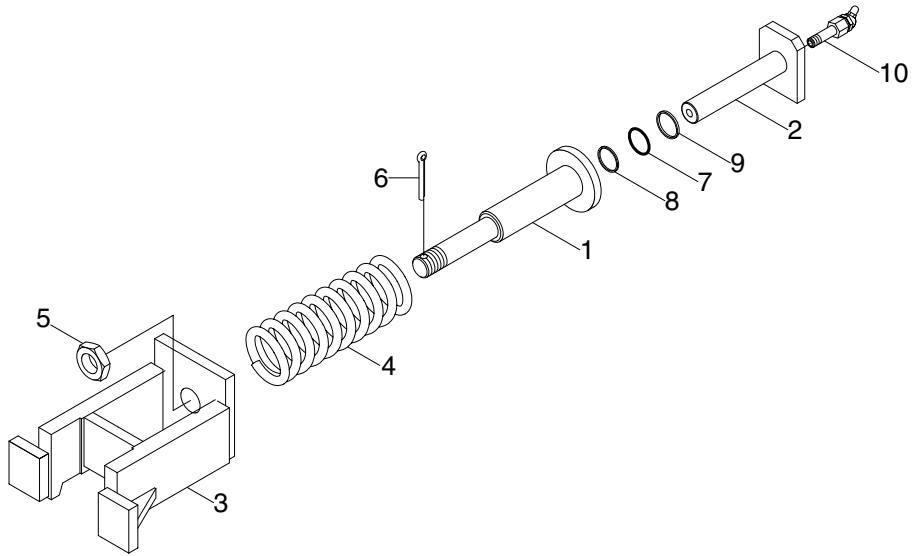


- ⑦ Lay bracket (2) on its side.
Supply engine oil to the specified level,
and tighten plug.



4) DISASSEMBLY AND ASSEMBLY OF RECOIL SPRING

(1) Structure

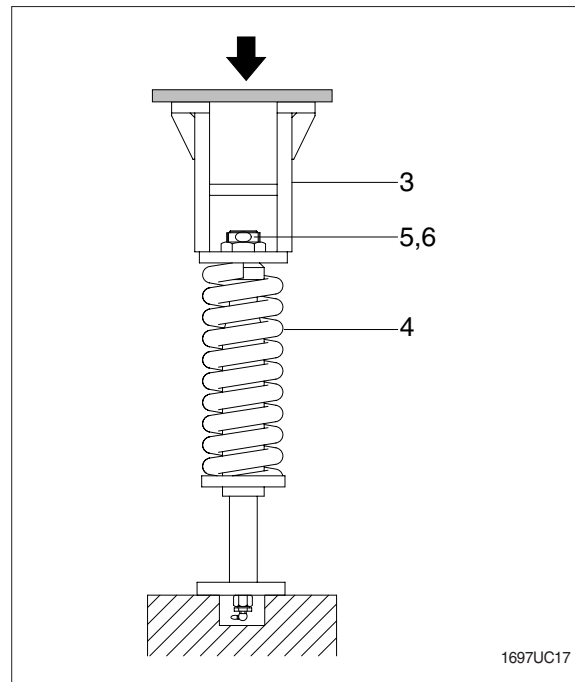


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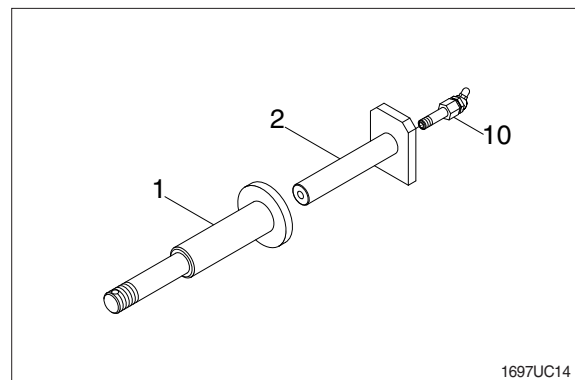
- | | | | | | |
|---|------------|---|--------------|----|------------|
| 1 | Cylinder | 5 | Castle nut | 9 | Packing |
| 2 | Piston rod | 6 | Split pin | 10 | Valve assy |
| 3 | Bracket | 7 | O-ring | | |
| 4 | Spring | 8 | Back-up ring | | |

(2) Disassembly

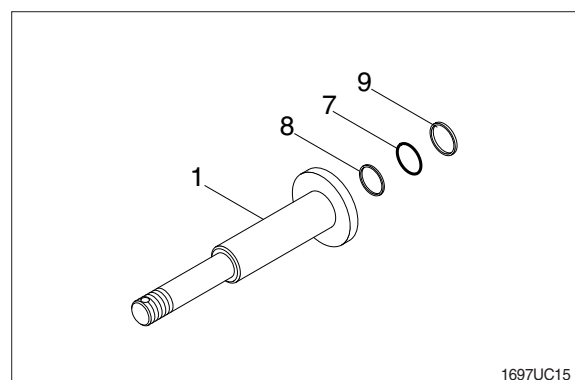
- ① Apply pressure on bracket (3) with a press.
The spring is under a large installed load. This is dangerous, so be sure to set properly.
 - Spring set load : 875 kg (1930 lb)
- ※ Remove split pin (6) and nut (5).
- ② Take enough notice so that the press which pushes down the spring, should not be slipped out in its operation.
- ③ Lighten the press load slowly and remove bracket (6) and spring (4).



- ⑤ Remove piston rod (1) from cylinder (2).
- ⑥ Remove grease valve (10) from piston rod (1).

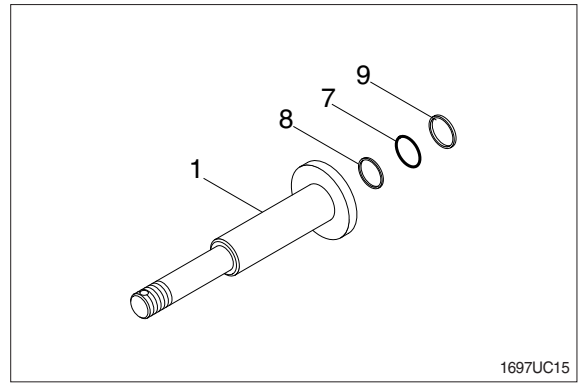


- ⑦ Remove packing (9), back-up ring (8) and O-ring (7) from cylinder (1).

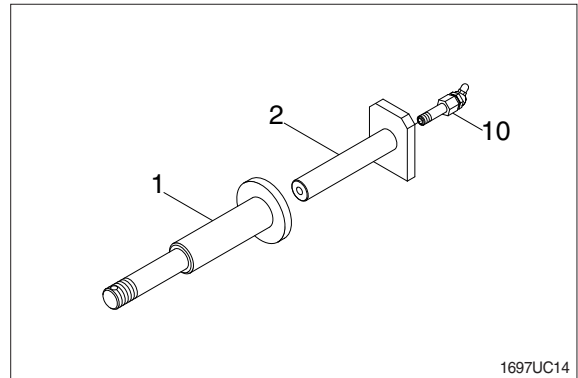


(3) Assembly

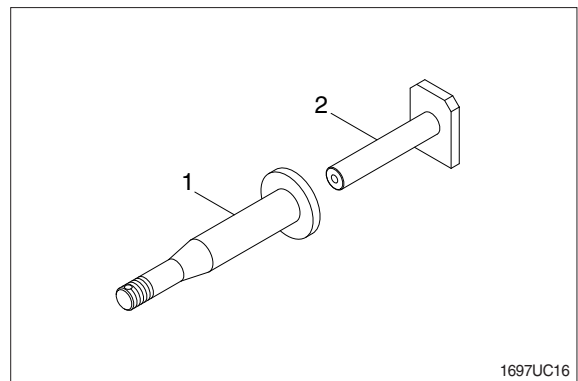
- ① Install O-ring (7), back-up ring (8), and packing (9) cylinder (1).



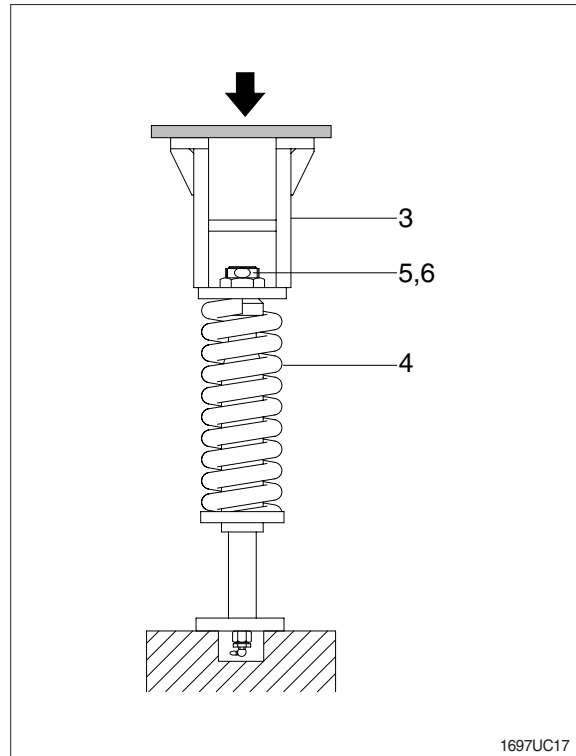
- ② Pour grease into cylinder (1), then push in piston rod (2) by hand.
After take grease out of grease valve mounting hole, let air out.
※ If air letting is not sufficient, it may be difficult to adjust the tension of crawler.
- ③ Fit grease valve (10) to piston rod (2).
 - Tightening torque : $10 \pm 0.5 \text{ kgf} \cdot \text{m}$
($72.4 \pm 3.6 \text{ lbf} \cdot \text{ft}$)



- ④ Install piston rod (2) to cylinder (1).



- ⑤ Install spring (4) to cylinder (1).
- ⑥ Apply pressure to bracket (3) with a press and tighten nut (5).
- ※ During the operation, pay attention specially to prevent the press from slipping out.
- ⑦ Tighten nut (5) and insert split pin (6).



- ⑧ Lighten the press load and confirm the set length of spring (4).
 - Spring length : 223 mm (8.8")

